Claims

1. A Gram-positive bacterium which has been transformed with a heterologous gene encoding pyruvate decarboxylase, wherein the heterologous gene expresses an active pyruvate decarboxylase, and wherein the bacterium has native alcohol dehydrogenase function.

2. A Gram-positive bacterium according to claim 1 wherein the bacterium is a Bacillus sp.

3. A Gram-positive bacterium according to claim 1 wherein the bacterium is a thermophile.

4. A Gram-positive bacterium according to claim 2 wherein the Bacillus is selected from B. stearothermophilus; B. calvodax; B. caldotenax, B. thermoglucosidasius, B. coagulans, B. licheniformis, B. thermodenitrificans, and B. caldolyticus.

5. A Gram-positive bacterium according to claim 1 wherein the gene encoding lactate dehydrogenase expression has been inactivated.

6. A Gram-positive bacterium according to claim 5 in which the lactate dehydrogenase gene has been inactivated by homologous recombination.

7. A Gram-positive bacterium according to claim 1 in which the heterologous gene is from Zymomonas sp or from Saccharomyces cerevisiae.

8. A Gram-positive bacterium according to claim 7 in which the heterologous gene is from Z. mobilis.

9. A Gram-positive bacterium comprising a native adh gene and which has been

transformed with a pdc 5 gene from *S. cerevisiae*.

10. A Gram-positive bacterium according to claim 9 wherein the heterologous gene is incorporated into the chromosome of the bacterium.

11. A Gram-positive bacterium according to claim 1 in which the bacterium has been transformed with a plasmid comprising the heterologous gene.

12. A Gram-positive bacterium comprising a native adh gene and which has been transformed with a plasmid comprising a heterologous gene encoding pyruvate decarboxylase, wherein the plasmid is pFC1.

13. A Gram-positive bacterium comprising a native adh gene and which has been transformed with a heterologous gene encoding pyruvate decarboxylase wherein the heterologous gene is operatively linked to the lactate dehydrogenase promoter from Bacillus strain LN (NCIMB accession number 41038).

14. Strains LN (NCIMB accession number 41038); LN-T (E31, E32); TN NCIMB accession number 41039); TN-P1; TN-P3; LN-S (J8) (NCIMB accession number 41040); LN-D (NCIMB accession number 41041); LN-D11 and LN-DP1.

15. The gram-positive bacterium of claim 9 wherein the bacterium is a thermophile.

16. The gram-positive bacterium of claim 12 wherein the bacterium is a thermophile.

17. The gram-positive bacterium of claim 13 wherein the bacteria is a thermophile.

18. The gram-positive bacterium of claim 9 further comprising an inactivated lactate dehydrogenase gene.

19. The gram-positive bacterium of claim 12 further comprising inactivated lactate

dehydrogenase gene.

20. The gram-positive bacterium of claim 13 further comprising inactivated lactate dehydrogenase gene.